## "APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000825720

KOYFMAN, B. YE.; FINKEL SHTEYN, I. D.

Kaolin

Some technical properties of products from fractionated kaolin. Stek. i ker. 9 no. 8 August 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

# KOYFMAN, D.B.

Case of coma hepaticum treated with oxygen. Klin.med. 37 no.1:154
Ja '59. (MIRA 12:3)

1. Iz infektsionnogo otdeleniya (zav. D.B Koyfman) Putil'skoy rayonnoy bol'nitsy Chernovitskoy oblasti (glavnyy vrach I.V. Dema).

(COMA) (OXYGEN—THERAPEUTIC USE)

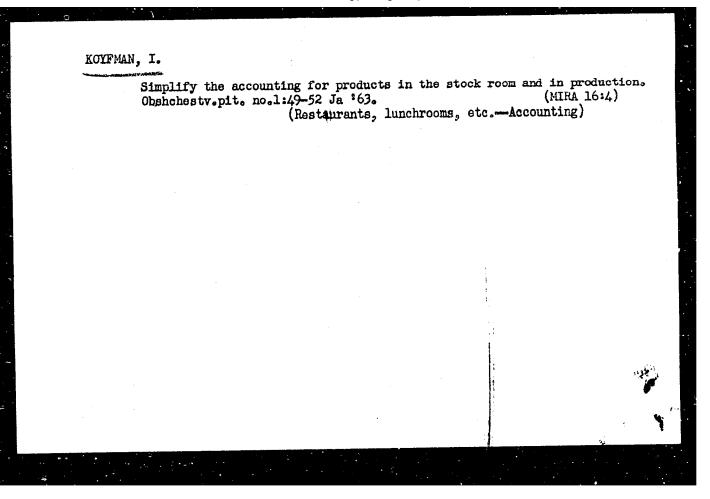
Experience in using blasting charges of increased diameter. Ugol' 30 no.2:41-42 F '55. (MIRA 8:4)

Industrial testing of standardised cutting parts in coal cutters.

Ugol' 30 no.11:26-28 B '55. (MLRA 9:2)

1.Vsesoyusnyy ugol'nyy institut.

(Coal mining machinery)



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X

CIA-RDP86-00513R0008257200

KOYFMAN, I.A.

Automatic installation for the control of the dipatcher's work at a first aid station. Zdrav. Ros. Feder. 7 no.10:22-23 0'63.

(MIRA 16:11)

1. Iz Ryazanskoy stantsii skoroy meditsinskoy pomoshchi.

KOYFMAN, I.A.

Work of a first aid station in the prevention of industrial accidents. Zdrav. Ros. Feder. 5 no. 4:35-36 Ap \*61. (MIRA 14:4)

1. Iz Ryazanskoy stantsii skoroy meditsinskoy pomoshchi. (INDUSTRIAL SAFETY)

# KOYFMAN, I.A.

Technological flow chart for refining raw sugar cane at the Tokmak Sugar Factory. Sakh.prom. 35 no.6:29 Je '61. (MIRA 14:6)

1. Tokmakskiy sakharnyy zavod.
(Tokmak—Sugar cane)

KOYFMAN, I.S.

USSR Chemical Technology. Chemical Products

I-12

and Their Application

Silicates. Glass. Ceramics. Binders. Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31497

Author : Matveyev M.A., Koyfman I.S., Grechanik L.A.

Vibratory Comminution of Sand and Its Use in the Title

Making of Borosilicate Glass

Orig Pub: Steklo i keramika, 1956, No 11, 3-9.

Abstract: Grinding of sand (S) was effected in M-10 and M-200 vibratory mills. Degree of dispersion of

S was evaluated on the basis of screen analysis data and specific surface values. It was found that most effective is grinding of S during the first 1.5 hours, when a specific surface of 3300 cm<sup>2</sup>/g is attained with a residue on the

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USSR /Chemical Technology. Chemical Products and Their Application

I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31497

screen of 10000 apertures/cm² (5%). Comparative study of vibratory grinding using different grinding bodies has shown that greatest output capacity of the mill is attained with steel balls, which are most wear-resistant but cause contamination of the S with metallic Fe. Milling with porcelain and glass balls decreases the output by 2-3 times. Use was also made of glass balls manufactured at the same plant; cost of the balls expended in vibratory comminution of 1 ton of sand is 2 times less than that of porcelain balls. For glass in which a Fe<sub>2</sub>O<sub>3</sub> content of more than 0.1% is permissible, milling of S

Card 2/4

USSR /Chemical Technology. Chemical Products and Their Application

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Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31497

can be carried out in a housing without an internal rubber lining, which is of great practical importance since the life of the lining does not exceed 150 hours of operation. To reduce dust formation and improve mixing of the batch it is advantageous to humidify the sand 5 minutes prior to termination of the mixing. Early moistening of the S impairs the degree of comminution. Output of a continuous operation unit, with a feed of the aero-mixture under the milling bodies, is 1.7 times higher than that of an intermittent operation mill, yielding a product of the same degree of dispersion. Most

Card 3/4

USSR /Chemical Technology. Chemical Products and Their Application

I-12

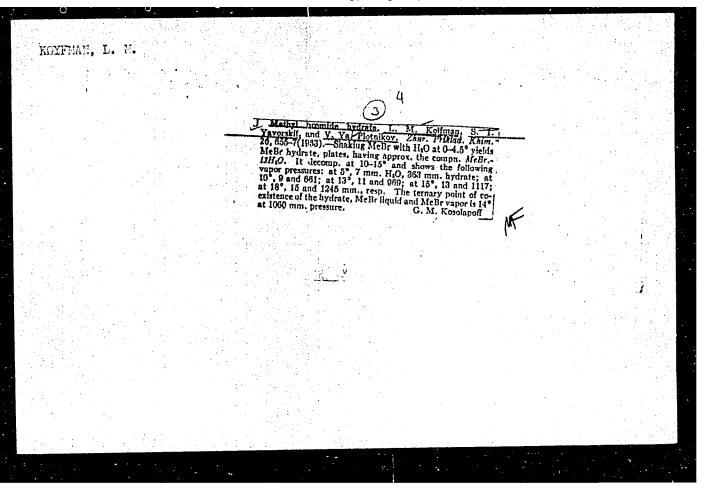
Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31497

advantageous is a grinding of S to a specific surface of 2000 cm $^2/g$ , which is attained in a M-200 mill within 1 hour.

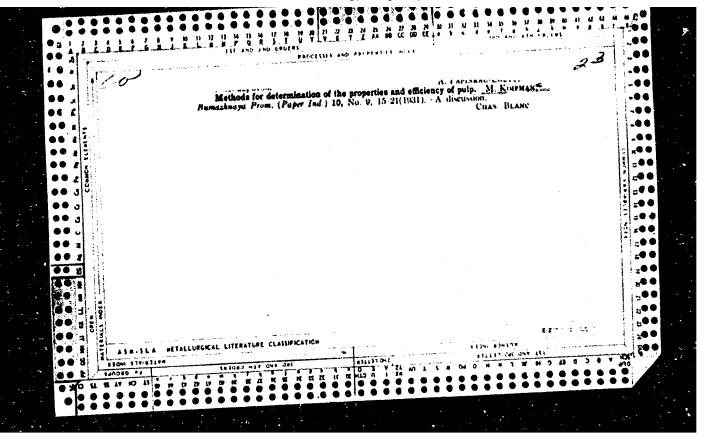
Card 4/4

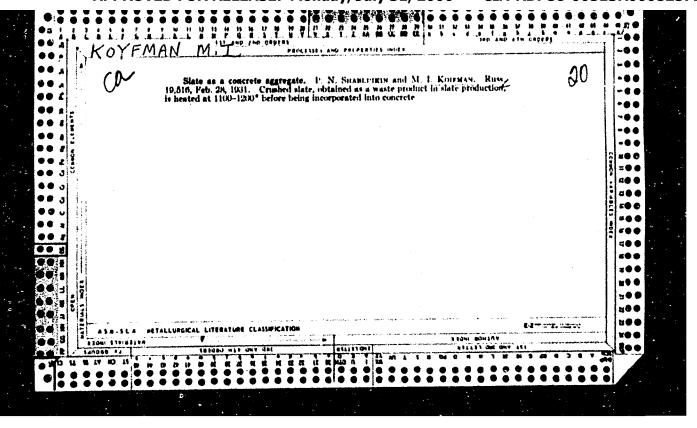
# Hosult of Sanational dietotherapy in peptic ulcer patients after gustrectomy. Zhur.ob.biol. 20 no.2124-28 Nr-Ap '59. (MIRA 1215) 1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kurorto-logii i sanatoriya No.7 Odesskogo territorial'nogo kurortnogo upravleniya. (CASTRECTOMY, in var. dis. peptic ulcer, postop. dietother. (Rus)) (DIETS, in var. dis. peptic ulcer, postgastrectomy (Rus))

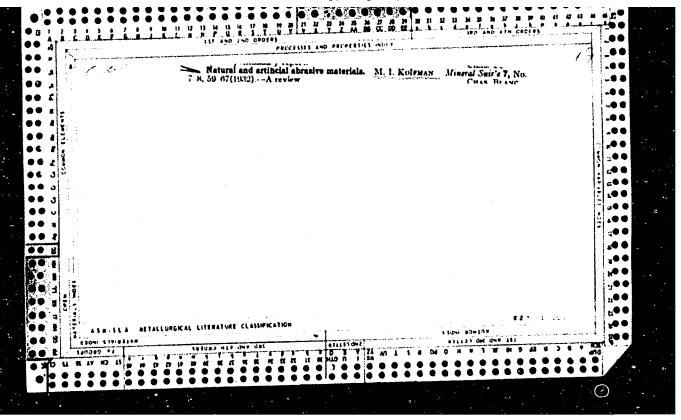


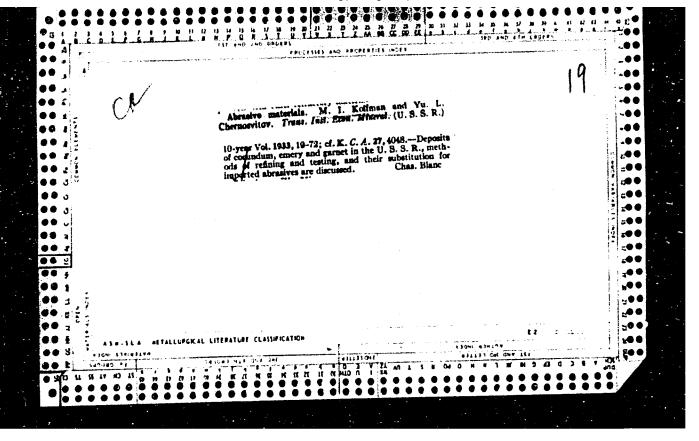
KOYFMAN, M.D.

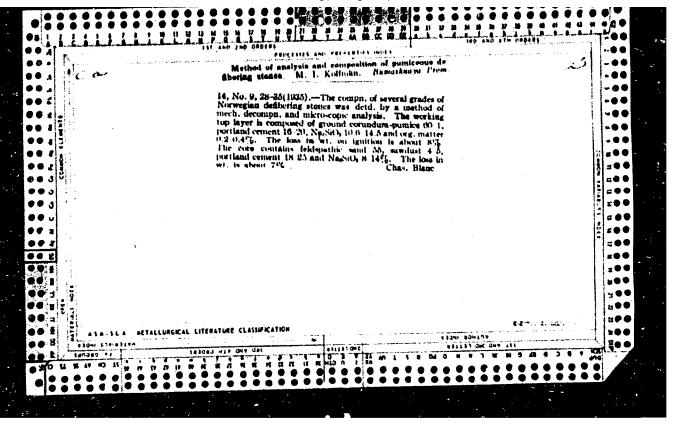
Semiquantitative determination of indium and thallium in sulfide and silicate ores and rocks with a sensitivity of 1.10-4-3.10-4. Trudy Alt.GMNII AN Kazakh.SSR 12:157-159 %62. (MIRA 15:8) (Indium-Spectrum) (Thallium-Spectrum) (Ore deposits)

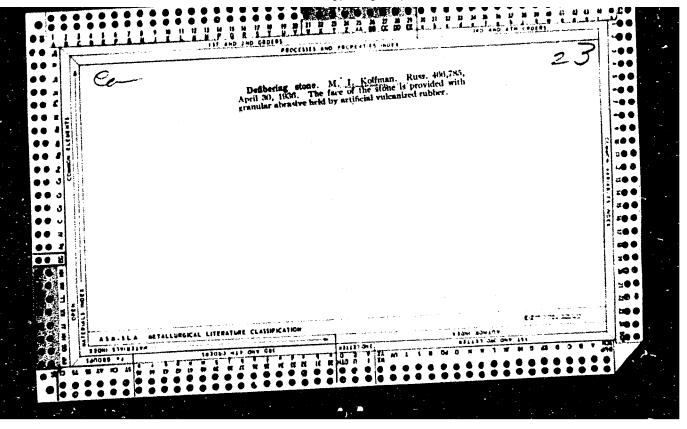


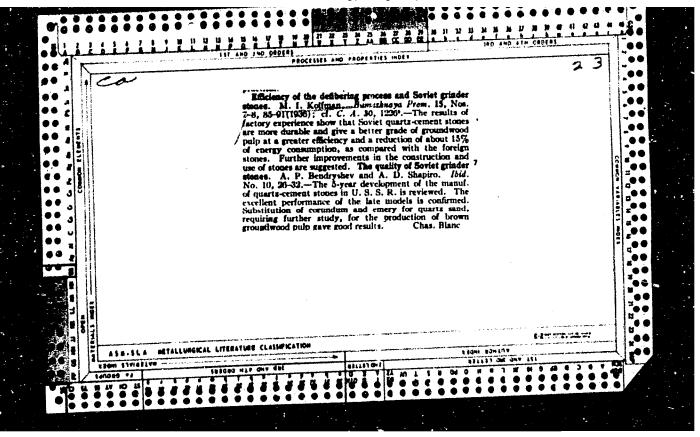


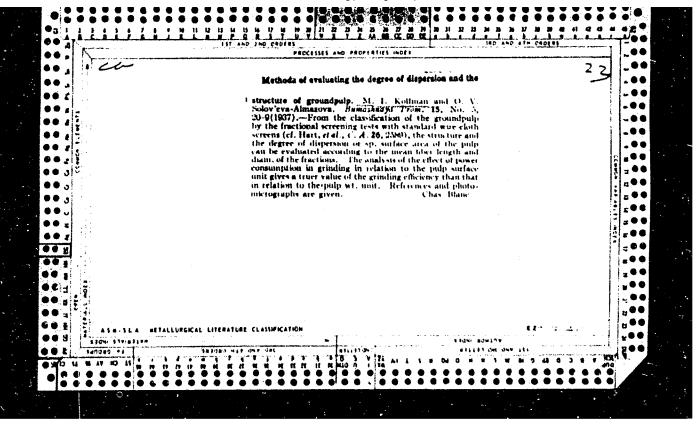


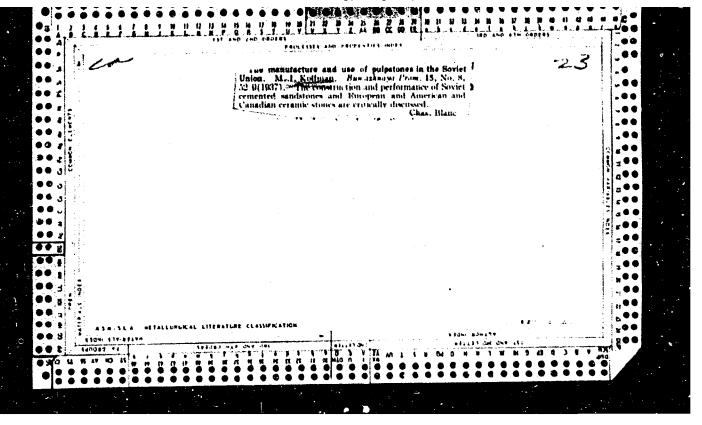


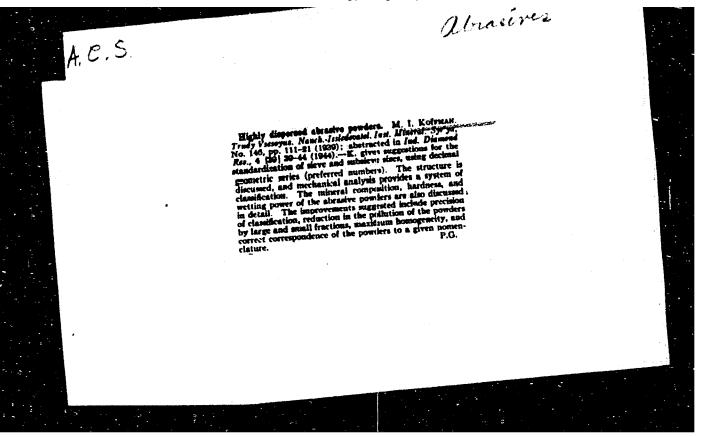


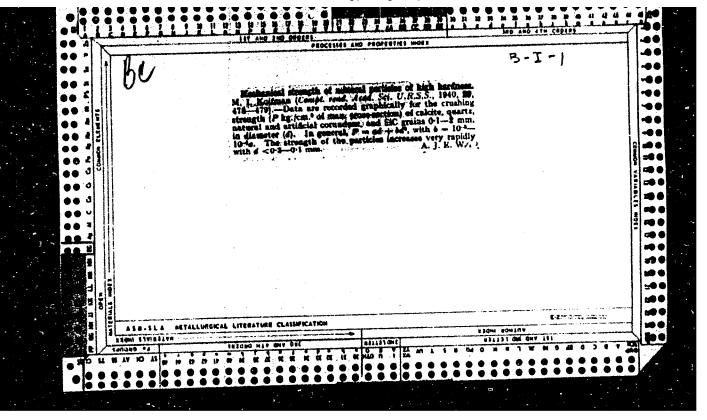


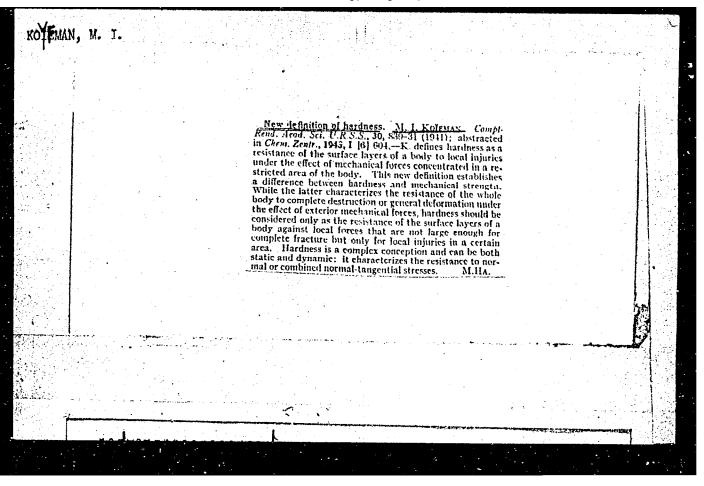












## KOYPHAN,M.I.

Field methods of evaluating the grade of corundum and emery Sov.geol. no.21:87-101 '47. (MLRA 8:8) (Corundum) (Emery)

KOYFMAN, M. I.

"Rules Governing the Rock Disintegration by Means of Rotating and Percussion Drilling."

report presented at the Conference in the Mining Inst. AS USSR on Problems of Rock Disintegration, 20-22 May 1958. (Vest. AN SSSR, No. 8, 1958, pp. 130-132)

# KOYFMAN, M.I.

New bits used in core drilling. Biul.tekh.-ekon.inform. no.11:5-6 58. (MIRA 11:12)

KOYFMAN, Mikhail Il'ich; IL'NITSKAYA, Yelena Ivanovna; KARPOV, Viktor Ivanovich; PROTOD'YAKONOV, M.M., prof., doktor tekhn. nauk, otv. red.; TEDER, R.I., otv. red.

[Resistance of rocks in a volume stressed state; some problems in the methodology of research] Prochnost' gornykh porod v ob"emnom napriazhennom sostoianii; nekotorye voprosy metodiki issledovanii. Moskva, Nauka, 1964. 32 p. (MIRA 17:11)

PROTOD YAKONOV, Mikhail Mikhaylevich; KOYFMAN, Mikhail Il'ich; CHIRKOV, Sergey Yofimovich; KUNIYSH, Mikhail Filimonovich; TEDER, Rolland Iogannesevich

[Strength certificate of rocks and methods of determining it] Pasporta prochnosti gornykh porod i metody ikh opredeleniia. [By] M.M.Protod'iakonov i dr. Moskva, Nauka, 1964. 76 p. (MIRA 18:1)

1. Moscow. Institut gornogo dela im. A.A.Skochinskogo.

POPILISKIY, R. a.; PANKRATOV, Yu. F.; KOYFMAN, N. M.

Formation of a nonporous structure in polycrystalline corundum. Dokl. AN SSSR 155 no. 2:326-329 Mr 164. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut elektrovakuumnogo stekla. Predstavleno akademikom S. A. Vekshinskim.

KOYFMAN, S. I.; IZRAYLET, L. I.; KOROTKOV, V. M.

"The Use of Phytoncides of Garlic for Prophylaxis and Treatment of Grippe and Severe Catarrhs of the Upper Respiratory Tracts," Voyenno-Med. Zhur., No. 11, p. 62, 1955.

KOYFMAN, S.I.

HELMINTHS

"A Case of Group Trichinosis", by S.I. Koyfman, Meditsinskaya Parazitologiya i Parazitarnyye Bolesni, No 2, March-April 1957, pp 159-160.

The author describes five cases of trichinosis which occured after eating bacon sent from Zakarpat'ye.

In spite of the relative rarity of this disease—it is suggested to call the attention of physicians to the necessity of increasing the sanitary control of slaughtered animals.

In case of an increasing cosinophilia in patients, the author recommends to have them examined for trichinosis.

Card 1/1

- 21 -

MARMOR, L.; KOYFMAN, S.; CHAPLYGINA, E.

Appeal of the collective of medical personnel of the First Consolidated Hospital of Beltsy to all the medical personnel of the republic. Zdravockhranenie 3 no.1:3-4 Ja-F 160.

(MIRA 13:6)

1. Glavnyy vrach 1-y ob yedinennoy bol'nitsy goroda Bel'tsy
(for Marmor). 2. Sekretar' pariynoy organizatsii (for Koyfman). 3. Predsedatel' mestnogo komiteta (for Chaplygina).

(BELTSY--PUBLIC HEALTH)

of Influenza, 1959. and REMOROV, V.N.

Voyenno-Meditsinskiy Zhurnal, No. 11, 1961, pp. 20-79.

KOYFMAN, S.I., polkovnik meditsinskoy sluzby; REMOROV, V.N., podpolkovnik meditsinskoy sluzby

Clinical aspects and treatment of influenze in 1959. Voen.-med. zhur. no.11:72 N '61. (MIRA 15:6)

KOTIGER, Ya.S.; KOYFMAN, S.S.

Rare case of anomalous development of the liver. Arkh. anat., gist. 1 embr. 42 no.3:70-71 Mr 162. (MIRA 15:5)

1. Khirurgicheskoye otdeleniye (zav. - Ya.S.Kotiger) i rentgenologicheskoye otdeleniye (zav. - S.S.Koyfman) l-y ob"yedinennoy bol'nitsy gor. Bel'tsy Moldavskoy SSR. Adres avtorov: Bel'tsy, Moldavsk SSR, l-ya ob"yedinennaya bol'nitsa Khirurgicheskoye otdeleniye.

(LIVER--ABNORMITIES AND DEFORMITIES)

KOTFMAN, U.G., inzhener; PSHENICHNYY, V.D., inzhener.

Camber and stress in welded diaphrages with blade of small width. Energomashinostroenie 3 no.9:30-34 S '57. (MIRA 10:10) (Turbines)

## New stand for diaphragm testing. Energomashinostroenie 4 no.12:23-25 D '58. (MIRA 11:12) (Steam turbines--Equipment and supplies)

32559 S/198/61/007/006/001/008 D299/D301

10 6000 1327

AUTHORS: Sa

Savin, H. M. and Koyfman, Yu. I. (Kyyiv-L'viv)

TITLE:

Plane problems in nonlinear elasticity theory

PERIODICAL: Prykladna mekhanika, v. 7, no. 6, 1961, 590-599

TEXT: M. I. Muskhelishvili's methods are used for solving several plane problems of nonlinear elasticity theory (Ref. 1: Nekotoryye osnovnyye zadachi matematicheskoy teorii uprugosti (Some Basic Problems in Mathematical Elasticity Theory), Izd-vo AS SSSR, 1954). Basic relationships for second approximation: The system of equations of plane nonlinear theory is integrated by the method of series expansion in the parameter  $\varepsilon$ . In the second approximation, the stress-tensor components are

Card 1/6

Plane problems in ...

32559 \$/198/61/**Q**07/006/001/008 D299/D301

$$\tau^{12} = 4^{\circ} \quad \epsilon \left\{ \frac{\partial}{\partial \eta} \left( \frac{\partial U^{(1)}}{\partial z} \right) + \epsilon \left[ \frac{\partial}{\partial \eta} \left( \frac{\partial U^{(2)}}{\partial z} \right) - \frac{\partial D^{(1)}}{\partial \eta} \frac{\partial}{\partial \eta} \left( \frac{\partial U^{(1)}}{\partial z} \right) - \frac{\partial \overline{D}^{(1)}}{\partial \eta} \frac{\partial}{\partial \overline{\eta}} \left( \frac{\partial U^{(1)}}{\partial \overline{z}} \right) \right] \right\};$$

$$\begin{split} \overline{\tau}^{22} &= -4^{0} H \epsilon \left\{ \frac{\partial}{\partial \overline{\eta}} \left( \frac{\partial U^{(1)}}{\partial \overline{z}} \right) + \epsilon \left[ \frac{\partial}{\partial \overline{\eta}} \left( \frac{\partial U^{(2)}}{\partial \overline{z}} \right) - \frac{\partial D^{(1)}}{\partial \overline{\eta}} \frac{\partial}{\partial \overline{\eta}} \left( \frac{\partial U^{(1)}}{\partial \overline{z}} \right) - \frac{\partial \overline{D}^{(1)}}{\partial \overline{\eta}} \frac{\partial}{\partial \overline{\eta}} \left( \frac{\partial U^{(1)}}{\partial \overline{z}} \right) \right] \right\}. \end{split}$$

(1.6)

where  $D = z - \pi$  is the (complex) displacement function, U - Airy's function, H - a constant equal to the shear modulus u or to 2hu respectively. Second-order potential functions: It is assumed Card 2/6

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Plane problems in ...

that the multiply connected region S, occupied by the body after deformation, is bounded by several simple, closed contours  $L_1,\ldots,L_{m+1}$ . After computations, one obtains for the potential functions

$$\varphi^{(2)}(z) = -\frac{1}{2\pi(k+1)} \sum_{n=1}^{m} (X_n^{(2)} + iY_n^{(2)} - E_{1,n}) \ln(z - z_n + \varphi_0^{(2)}(z).$$

$$\psi^{(2)}(z) = \frac{1}{2\pi(k+1)} \sum_{n=1}^{m} \left[ k(x_n^{(2)} - i y_n^{(2)}) + E_{2n} \right] \ln(z - z_n) + \psi_0^{(2)}(z)$$
(2.11)

where X and Y are the components of the principal stress tensor,  $\phi_0$  and  $\psi_0$  are functions, holomorphic in S. Principal boundary. Card 3/6

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Plane problems in ...

value problems: In contradistinction to the linear formulation, the boundary conditions in nonlinear theory can be formulated differently. First principal problem: a.) External stresses given at known contour of deformed body. B.) External stresses given at contour of undeformed body. C.) Boundary given for undeformed state, external stresses - for deformed state. Second principal problem: D.) Displacement components of points of boundary given, whose form is known in deformed state. E.) Displacement components of points of boundary given, whose form is known in undeformed state. It was found that the second-order potentials with formulations A) and B) are simultaneously determined for similar problems. The elastic equilibrium of infinite plate is then discussed, haveing a circular hole filled by a ring of different material. For the boundary conditions and the compatibilty equations one obtains

$$\frac{\partial \mathbf{U}^{(1)}}{\partial \mathbf{Z}} \bigg|_{\mathbf{L}_{1}} = \mathbf{f}^{(1)}(\mathbf{t}); \; \mathcal{E}_{0} \mathbf{D}_{0}^{(1)} = \; \mathcal{E}_{1} \mathbf{D}_{1}^{(1)} + \; \mathbf{g}_{0}(\mathbf{t}); \; \frac{\partial \mathbf{U}_{0}^{(1)}}{\partial \mathbf{Z}} = \frac{\partial \mathbf{U}_{1}^{(1)}}{\partial \mathbf{Z}} \; \text{ on } \; \mathbf{E}_{1}^{(1)}$$

Card 4/6

Plane problems in ...

S/198/61/007/006/001/008 D299/D301

$$\frac{\partial U^{(2)}}{\partial Z} \Big|_{L_1} = f^{(2)}(t); \mathcal{E}_0^{0} D_0^{(2)} = \mathcal{E}_1^{2} D_1^{(2)}; \mathcal{E}_0 \frac{\partial U^{(2)}}{\partial Z} = \mathcal{E}_1 \frac{\partial U^{(2)}}{\partial Z} \text{ on } L \quad (4.3)$$

The case is considered when a circular hole of radius R is filled by a ring of internal radius R<sub>1</sub>; the internal contour of the ring is stress free and the stressed state at infinity is homogeneous. Formulas for the second-order potentials are derived. These formulas can be used for determining the second-order potential for the following problems: a) Plate with circular hole into which a washer is pressed; b) hole with annealed washer or ring. Case a) is considered in more detail. There are 1 figure and 4 references: 2 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publications read as follows: J. E. Adkins, A. E. Green, G. G. Nicholas, Two-dimensional theory of elasticity for finite deformations, Philosophical transactions, ser. A, 247, 1954; J. E. Adkins, A. E. Green, Plane problems in second-order elasticity Card 5/6

Plane problems in ...

198/61/007/006/001/008

theory, Proceedings of Royal Society, ser. A, N 1219, v. 239, 1957.

ASSOCIATIONS: Institut mekhaniky AN URSR (Institute of Mechanics of the AS UkrRSR); Konstruktors'ke byuro (Design

Bureau), L'viv

SUBMITTED:

June 30, 1961

Card 6/6

L 08717-67 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k)JJP(c) ACC NRI TAP6032394 SOURCE CODE: UR/0198/66/002/009/0071/0078 AUTHOR: Koyfman, Yu. I. (L'vov); Langleyben, A. Sh. (L'vov) В ORG: L'vov State University (L'vovskiy gosudarstvennyy universitet) TITLE: Large elastic deformations of a two-layer cylinder SOURCE: Prikladnaya mekhanika, v. 2, no. 9, 1966, 71-78 TOPIC TAGS: elastic deformation, stress analysis, nonlinear material, compressible material, physical nonlinearity, geometric nonlinearity, nonlinear elasticity simeres, cylindric shell structure, composite material ABSTRACT: The stresses and strains in a composite hollow cylinder consisting of two cylinders of different materials soldered together over their contact surface are analyzed. The outer layer of the cylinder is made of a nonlinearly (or linearly) elastic material, the inner layer-of nonlinearly elastic material of lower rigidity; both materials are compressible. Continuous loads act on the inner and outer surfaces of the cylinder in the final (deformed) state. The elastic equilibrium of this cylinder is discussed by using the relationships of the plane, physically and geometrically nonlinear theory of elasticity. The resolving system of equations of this theory, describing the plane deformation and state of stress, is integrated Card 1/2

L 08717-67

ACC NR: AP6032394

by expanding the stress and displacement functions in powers of a small parameter. The following versions of the boundary problems concerning the final and initial (nondeformed) states are discussed for a cylinder under uniform normal pressures on both surfaces: A) The boundary and loading conditions are given for the final state; B) The boundary and loading conditions are given for the initial state; and C) the load acting in the final state is applied to the initial contour. Formulas for determining the stress components and the radial displacements are derived for all three cases, and these formulas are deduced for a noncomposite (one-layer) cylinder. The behavior of, a two-layer cylinder with the outer layer made of linearly elastic material and the inner layer from an incompressible material with an energy function in the Mooney form, is investigated as an example, assuming that the radii of the cylinders are given for the initial state. The dependence (determined by means of linear and nonlinear theories) of tangential and normal stresses, and of normal displacements on the elastic constants of both component layers is shown in diagrams, and the nonlinearity effect in the stress and strain distribution is discussed. Orig. art. has: 4 figures and 14 formulas.

SUB CODE: 20/ SUBM DATE: 02Feb66/ ORIG REF: 003/

Card 2/2 nst

SAVIN, G. M. ; KOYFMAN, Yu.I.

Nonlinear effects in problems of stress concentration at the boundaries with reinforced edges. Prikl. mekh. 1 no.9:1-13 '65.

(MIRA 18:10)

1. Konstruktorskoye byuro Instituta mekhaniki AN UkrSSR.

E.

KOYFMAN, Yu.I. [Koifman, IU.I.]

Nonlinear second-order effects for a plate with a hole whose edge is soldered to an absolutely rigid insert.

Dop. AN URSR no.3:344-348 164. (MIRA 17:5)

1. Predstavleno akademikom AN UkrSSR G.N. Savinym [Savin, H.M.].

L Lili5-66 ENT(d)/ENT(m)/ENP(w) EM

ACC NR. AP5024933

BOURCE CODE: UR/0198/65/001/009/0001/0013

AUTHOR: Savin, G. N. (Kiey); Koyfman, Yu. I. (L'vov)

ORG: Institute of Mechanics, Academy of Sciences, UkrSSR. Design Bureau (Institut mekhaniki AN UkrSSR. Konstruktorskoye byuro)

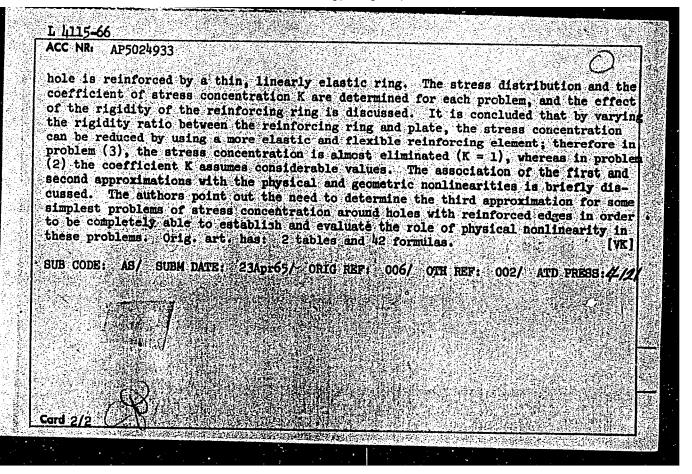
TITLE: Nonlinear effects in problems on stress concentration around holes with rein-

SOURCE: Prikladnaya mekhanika, v. 1, no. 9, 1965, 1-13

TOPIC TAGS: stress concentration, nonlinear elasticity theory, plane elasticity theory, plane stress, plane strain, hole weakened plate, hole edge reinforcement

ABSTRACT: Problems on concentration of stresses around holes with reinforced edges are discussed within the scope of the physically and geometrically nonlinear plane theory of elasticity. The stress-strain relationships are derived by integrating the resolving systems of equations which describe the states of two-dimensional stress and strain in solids. Boundary problems can be solved by means of these relationships in cases when the body contours are given, either in a strained or non-strained state. The following problems of stress concentration around holes with reinforced edges in plates are solved by considering only two approximations: 1) a wide ring of a different material is soldered to the edge of a circular hole; 2) the edge of a circular arbitrary shape is reinforced by a perfectly rigid ring; and 3) the edge of a circular

Card 1/2



KOYFMAN, Z.D.; NARINSKIY, L.Z.

Novocaine treatment of eczema and some other allergic skin diseases. Sbor.nauch.rab.Bel.nauch.-issl.kozno-ven.inst. 6:372-374 \* 59.

OCAINE) (MIRA 13:11)

(NOVOCAINE) (SKIN--DISEASES)

KOYICH, Mi

YUGOSIAVIA/Weeds and Their Control.

N

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20624.

Author : M. Koyich

: The Botanical Institute of Belgrade University. Inst

: Contribution to the Characterization of Vegetative Re-Title

production in the Cavada Thistle (Cirsium arvense Scop.) (K kharakteristike vegetativnogo razmozheniya osota

rozobogo (Cirsium azvense Scop.).

Orig Pub: Zb. radova Pol'oprivredzog fak. Un-t Beogradu, 1956, 4,

No 1, 57-66.

Abstract: Research conducted at the Botanical Institute of Belgrade

University has established that the regeneration capacity in severed side roots of thistle is considerably higher than in the main root. The severed roots have two maximum periods of vegetative regeneration, namely in spring

Card : 1/2

YUGOSLAVIA/Weeds and Their Control.

N

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20624.

and fall; root growth is diminished during the summer months. The depth and time of severing the root system plays considerable role in regeneration and the appearance of shoots above ground. Severing in May acts very much more favorably for regeneration than in July.

Card : 2/2

KOYKOV, S.D., inzh. (Stalinsk).

Experiments in improving the quality of rails. Put' i put. khoz. no.1:
23 Ja '58.

(Railroads--Rails)

(MIRA 11:1)

KOYKOV, S.N.

SUBJECT

PERIODICAL

USSR / PHYSICS

CARD 1 / 2

PA - 1584

AUTHOR TITLE

KOJKOV, S.N., ZIKIN, A.N.

The Electric Resistance of Thin Layers of Aluminium Oxide,

Zurn. techn.fis, 26, fasc. 10, 2248-2253 (1956)

Issued: 11 / 1956

The samples were investigated in the vacuum within the temperature interval of from 300 to 2000° K by means of parallel current.

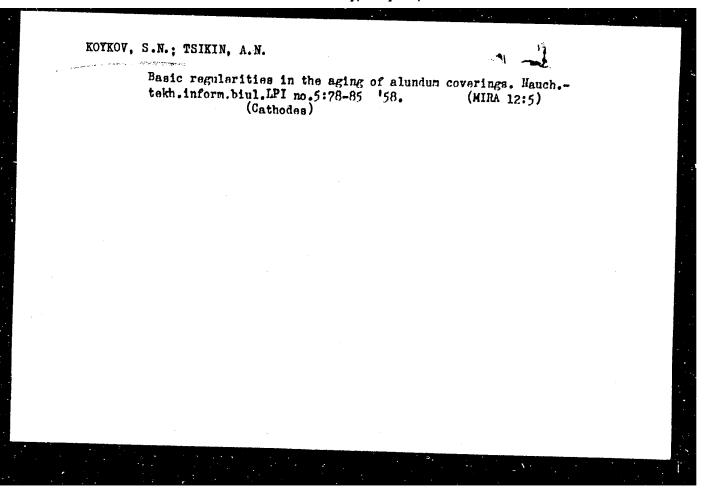
Investigation method and apparatus: The aluminium-oxide powder which was mixed with an organic binding agent was applied either on to a tungsten wire of 100 micron thickness or on to a molybdenum band of 1 mm width and 30 micron thickness. The sample was introduced into a piston with

10<sup>-4</sup> to 10<sup>-5</sup> torr and thermal treatment (annealing) is described. In these tests the core always served as an electrode, the other electrode was of metal. During annealing the electrodes were closely connected with the surface of the aluminium oxide layer. The average value obtained on the basis of from 10 to 200 measurements was in all cases taken as breakdown voltage.

Measuring results: The dependence of breakdown voltage on polarity is obviously due to the insufficient contact of the outer electrode with the surface of the aluminium oxide layer. The electrodes, which were fixed to the samples before annealing, have sufficiently close contact after heat treatment, which, however, can again be destroyed by sharp changes of temperature in the course of measuring. In electrodes with sufficiently close contact breakdown voltage

Zurn.techn.fis, 26, fasc. 10, 2248-2253 (1956) CARD 2 / 2 PA - 1584 in the temperature domain of from 300 to 1500° K increases nearly proportionally to the thickness of the layer. At higher temperatures this dependence is linear but not directly proportional. In the case of a not close contact breakdown voltage within the entire temperature range of from 300 to 2000° K is not proportional to the thickness of the layer. The breakdown voltage of an aluminium oxide layer at close contact of the outer electrode with the surface layer is nearly equal to the breakdown voltage of layers of air of corresponding thickness. At 1500° K breakdown voltage does not depend on the degree of the vacuum in the pressure interval of from  $10^{-4}$  to  $10^{-6}$  torr. These and other facts indicate the existence of pores in the layers of aluminium oxide. The pores pass right through and comprise up to 30% of the entire volume of the layer. The temperature dependence of breakdown voltage, namely  $lg U_D = f(1/T)$  can be represented in form of a broken straight line. In all samples the break is to be found at a temperature of the order of from 1300 to 1400° K. Below 1300° K breakdown voltage depends only little on There follows a discussion of results.

INSTITUTION: LPI ( = Leningrad Pedagogical Institute) Leningrad.



AUTHORS:

Koykov, S. N., Tsikin, A. N.

48-22-5-19/22

TITLE:

The Breakdown of Thin Alundum-Layers (Proboy tonkikh sloyev alunda) (Data From the VIII All Union Conference on Cathode Electronics, Leningrad, October 17-24, 1957) (Materialy VIII Vsesoyuznogo soveshchaniya po katodnoy elektronike, Leningrad, 17-24 oktyabrya 1957 g.)

PERIODICAL:

Izvestiya Akademii Nauk SSSR Seriya Fizicheskaya, 1958 Vol. 22, Nr 5, pp. 622-627 (USSR)

ABSTRACT:

Thin layers of sintered aluminum (alundum) are used for insulating coatings of vacuum-tubes to avoid a

short-circuit between the cathode core and the heater fila-

ment. In the operation of radio valves alundum coatings are used under rather hard conditions : at 1400 - 1700°K and a relatively high electric field strength. The better part of spoilage results from a breakdown of these coatings. A study of the relevant regularities is essential for the production of more durable radio valves. Conclusions: 1. At temperatures of from 1400 - 1500°K the breakdown of alundum is due to heat, with direct current as well as with pulses.

Card 1/2

2. Below 1400°K no processes characteristic for the

The Breakdown of Thin Alundum-Layers

48-22-5-19/22

breakdown due to heat have been observed; It seems that the porous dielectric had been electrically disrupted in this case. 3. The relation of the disruptive voltage to the polarity of the electrodes is due to as unreliable (leaky) contact of the outer electrode with the surface of the alundum coating. 4. The aging of alundum coatings is obviously subordinated to the rules which have been established for the aging of organic dielectrics.

A. M. Shemayev, B. I. Vasserman, K. G. Kondrashova, S. A. Obolenskiy, and the first of the authors joined in the discussion. There are 8 figures and 4 references, 4 of which are Soviet.

ASSOCIATION:

Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Polytechnical Institute imeni M. I. Kalinin, Leningrad)

1. Sintered aluminum-Applications 2. Sintered aluminum coatings
---Failure 3. Sintered aluminum coatings---Properties 4. Electron
tubes----Materials

Card 2/2

KCYKOV, S. N., Candidate of Phys-Math Sci (diss) -- "A study of the laws of the breakdown of thin alundum coverings". Leningrad, 1959. 9 pp (Min Higher Educ USSR, Leningrad, Polytech Inst im M. I. Kalinin), 150 copies (KL, No 21, 1959, 111)

KOYKOV, S.N.; TSIKIN, A.N.

Basic regularities in the aging of alundum coatings. Fiz. tver. tela 1 no.3:456-461 Mr '59. (MIRA 12:5)

1. Leningradskiy pelitekhnicheskiy institut im. M.I. Kalinina. (Alundum--Testing)

KOYKOV, S.N.; TSIKIN. A.N.

Solving the problem of the thermal breakdown of dielectrics under nonsymmetric boundary conditions. Fiz.tver.tela 1 no.5:789-797 My 159. (MIRA 12:4)

1. Leningradskiy politekhnicheskiy institut im. M.I. Kalinina. (Dielectrics)

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S/196/61/000/010/007/037 E194/E155

**AUTHORS :** 

Koykov, S.N., Kunin, V.Ya., and Tsikin, A.N.

TITLE:

Empirical relationships characterising changes in the electrical conductivity of rutile ceramics during

ageing and regeneration

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no. 10, 1961, 19, abstract 10B 85. (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, no.9, 1960, 114-118)

TEXT: Rutile ceramic is known to age in an electrical field at temperatures above 150 °C. Ageing causes increase in the specific conductivity of the ceramics with time. After removal of the electric field or change in the polarity of the applied voltage, regeneration of the rutile ceramic occurs; the resistivity increases first rapidly and later slowly. Formulae are proposed to describe change of conductivity with time, expressing the conductivity as the sum or product of exponential functions and a constant term. 4 literature references. [Abstractor's note: Complete translation.] Card 1/1

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9.2400 (1001, 1159, 1331)

\$/181/60/002/012/001/018 B006/B063

AUTHORS:

Koykov, S. N. and Tsikin, A. N.

TITLE:

Solution of the Problem of Thermal Breakdown of Hetero-

geneous Dielectrics

PERIODICAL:

Fizika tverdogo tela, 1960, Vol. 2, No. 12, pp. 2989-2997

TEXT: When calculating the puncture voltage of inhomogeneous dielectrics according to the theory of thermal breakdown, difficulties are encountered in the case of a constant current if the field strength in the dielectric is proportional to the resistivity of the various parts. The present article, a theoretical study of thermal breakdown on a dielectric plate, in which resistivity  $\varrho$  is a function of the temperature, T, and the Z coordinate, is intended as a contribution to the solution of this problem.

This function is given by  $\varrho=\varrho_{0\beta}f(\beta Z/h)\exp(-\alpha T),$  where  $\varrho_{0\beta}$  is a constant coefficient. The boundary conditions are symmetric. The problem consists in solving the differential equation for heat conduction, which takes the

Card 1/2

Solution of the Problem of Thermal Breakdown of Heterogeneous Dielectrics

S/18:/60/002/012/001/018 B006/B063

form:  $d^2x/dU^2 + De^{-x}f(\beta U) = 0$ ,  $-dx/dU|_{0} = 0$ ;  $-dx/dU|_{1} = Cx$ ;  $-\frac{\xi}{2}$ ; (U\*Z/h). The equation is solved for a)  $f(\beta_a U) = 1 + \beta_a U$  and b)  $f(\beta_b U) = e^{\beta_b U}$ . Explicit expressions for the breakdown voltage are derived for a) and b). Practical examples of the application of the resulting formulas are computed, and the results are compared with those obtained from Fok's theory. Deviations from the results of Fok's theory can partly be explained by the fact that Q was assumed to be independent of E, which may lead to great errors at

high values of E. The authors thank Ye. V. Kuvshinskiy and B. P. Berkovskiy for reading the manuscript and critical remarks, and also Yu. N. Malyshev for discussions. There are 4 figures and 2 Soviet references.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina

(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED:

April 4, 1960

Card 2/2

13,2960 (2202, 1001, 1159)

\$/108/60/015/011/01:/012 B019/B063

AUTHORS &

Koykov, S. N. and Tsikin, A. N.

TITLE:

A Method of Quick Determination of the Service Lif Radio Parts by Steady Increase of Voltage

PERIODICAL:

Radiotekhnika, 1960, Vol. 15, No. 11, pp. 73-76

TEXT: The present paper deals with Kimmel's method of testing radio parts (Ref. 3). Kimmel' suggested a steady increase of the test voltage at a constant rate c for the testing of paper capacitors. On the basis of these results, the authors calculate the service life of these capacitors at a constant voltage U2 from formula (1):

 $T_2 = \int (ct/U_2)^K dt = (c/U_2)^K t^{K+1}/(K+1)$ 

Kimmel' derived this formula from empirical relations. The authors of the present paper disagree with the determination of the service life of paper capacitors from formula (1). They demonstrate that (1) may be derived

Card 1/2

A Method of Quick Determination of the Service Life of Radio Parts by Steady Increase of 5/108/60/015/011/011/012 B019/B063

from the theory of thermal aging whereas the service life of a paper capacitor depends on aging in an electric field. Proceeding from this results, the authors discuss the proper determination of the service life of radio parts with a steady increase of the test voltage. It is shown that the service life of a paper capacitor can be calculated from (1) only

if (10):  $\Phi[P_{cr}(f)] = \Phi[P_{cr}(f_m)] = const$  is valid. Here,  $P_{cr}$  is a critical value of P, and  $f_m$  is a symbolical denotation of the time.

variable parameters characterizing the test conditions (increase of the test voltage). It is finally noted that the adequate conditions for the testing of radio parts with an increase of the test voltage can be found only by a thorough examination of the aging rule as a function of roltage and time, There are 5 references: 3 Soviet, 1 German,

SUBMITTED:

May 16, 1960

Card 2/2

KOYKOV, S.N.; KUNIN, V. Ya.; TSIKIN, A.N.

Calculating changes in the concentration of defects in rutile ceramics during aging and regeneration. Fiz. tver. tela 3 no.2:651-657 F '61. (MIRA 14:6)

l. Leningradskiy politekhnicheskiy institut im. M. L. Kalinina (Rutile)

KOYKOV, S.N.; THIKIN, A.N.

Solution of the problem of thermal breakdown of inhomogeneous dielectrics with asymmetrical boundary conditions. Fiz. tyer. tela 3 no.9:2553-2563 S '61. (MIRA 14:9)

1. Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina.

(Dielectrics)

10

5/181/62/004/004/040/042 B102/B104

AUTHORS:

Koykov, S. N., Kunin, V. Ya., and Tsikin, A. N.

TITLE:

Analysis of a hypothesis on electrical aging of rutile

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1067-1068

Electrical aging and regeneration can be attributed to changes in the defect concentration of the TiO2 lattice. A. F. Ioffe (Fizika kristallov, 1929) has proposed a mechanism of an increase in defect concentration which is analyzed. The defects are assumed to be displaced within the monocrystallites forming the ceramic or within the domains forming the crystal. The theoretical considerations are carried out for a laminar dielectric consisting of equal layers. It can be shown that the application of an electrical field causes an increase in defect concentration. A numerical estimate, however, yields a senseless result: under otherwise reasonable assumptions the defect concentration would increase by a factor of 1032. If the change in defect concentrations Card 1/2

# "APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000825720

Analysis of a hypothesis on electrical ... B102/B104

were attributed to processes similar to those occurring in alkali-halide crystal coloration in an electrical field (Heiland, Zeitschr. f. Phys. 40

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUEMITTED: November 4, 1961 (initially), January 15, 1962 (after revision)

Card 2/2

KOYKOV, S. N.; KUNIN, V. Ya.; TSIKIN, A. N.

Analysis of a hypothesis on electrical aging of rutile ceramics. Fig. tver. tela 4 no.4:1067-1068 Ap \*62. (MIRA 15:10)

1. Leningradskiy politekhnicheskiy institut imeni M. I. Kalinina.

(Ceramics-Electric properties)

KOYKOV, S.N., FOMIN, V.A., TSIKIN, A.N.

Electric aging of polytetrafluoroetylene. Izv.vys.ucheb.zav.;fiz.no.2: 31-37 63.

1. Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina. (Ethylene--Electric properties)

KOYKOV, S.N.; KUNIN, V.Ya.; TSIKIN, A.N.

Variations in the concentration of dissociated defects in the aging process of rutile ceramics. Izv.vys.ucheb.zav.;fiz.no.2:66-71 '63.

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.
(Rutile crystals-Defects)

BARABANOV, N.N., inzh.; KOYKOV, S.N., kand.fiziko-matematicheskikh nauk; FOMIN, V.A., inzh.; TSIKIN, A.N., kand.tekhn.nauk

Ionization aging of polymer films in a wide range of temperatures, voltages, and frequencies. Elektroteknika 34 no.12:15-19 D '63.

(MIRA 17:1)

### "APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000825720

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L 05714-67 EWT(1) 1JP(c) GO

ACC NR: AR6010504

SOURCE CODE: UR/0196/65/000/010/B007/B007

AUTHOR: Koykov, S. N.; Tsikin, A. N.

TITLE: Generalization of the theory of thermal breakdown of solid dielectrics with consideration of the nonsymmetric conditions of cooling, heat release in the electrodes, and the variations in the specific active conductivity through the thickness of the specimen

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 10B41

REF SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 277-284

TOPIC TAGS: dielectric breakdown, thermal property, dielectric material, dielectric property

ABSTRACT: A theory is developed for the thermal breakdown of solid dielectrics with ac voltage applicable to real conditions of the operation of commercial dielectrics: a) heat release in electrodes, b) variations in the specific electrical resistance in the thickness of the specimen (the heterogeneity of the dielectric), and c) dissimilar (nonsymmetrical) conditions of cooling with respect to the electrodes. [Translation of abstract] 2 illustrations and bibliography of 8 titles. A. Petrashko

SUB CODE: 11,09

UDC: 621.315.61.015.51.001.1

L 05856-67 EWP(j)/EWT(m)/T IJP(c) ACC NRI ARGO10513 RM/JXT(0Z) SOURCE CODE: UR/0196/65/000/010/B012/B012 AUTHOR: Koykov, 8. N.; Tsikin, A. N. TITLE: Variations of penetration voltage, thickness, and weight of polymer films in ionization SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 10B62 REF SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 307-310 TOPIC TAGS: nonmetal aging, surface film, polyethylene, polyetyrene, polyethylene terephthalate, polytetrafluoroethylene ABSTRACT: The results of a study of the physicochemical changes occurring in ionization aging in films of industrial PE [polyethylene], polystyrene polyethylene terephthalate, and polytetrafluorocthylenebare expounded. For aging the films, test devices of two types were used. 1. The polymer film was placed in the air gap between two glass plates, to the outer surface of which metal electrodes were fastened. An alternating voltage was fed to the electrodes, adequate for the development of intensive ionization processes in the air gap. The entire structure was placed in a glass beaker, where the discharge products (ozone and nitric oxides) were gradually accumulated. Besides the film being tested, on which the discharges Card UDC: 621,315,616,96,015,532

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acted directly, a control specimen was placed under the beaker, subjected only to the "indirect" effect of the discharges (i.e., the chemical effect of ozone and nitric oxide). 2. The polymer film was located directly between metal electrodes. The effect of discharge product alone (method 1) is inadequate for intensive change of the short-duration penetration voltage Ut and does not lead to a decrease in the thickness of the film (erosion). In the direct effect of the discharges, the basic cause of the change in Ut is the decrease in the thickness of the film due to erosion. A power dependence exists

$$dh \mid dt = -C \cdot E^{m}. \tag{1}$$

 $(m \approx 3)$  between the rate of decrease of the thickness and the average field intensity in the solid dielectric,  $E = U/h_1$ , calculated without consideration of the voltage drop in the ionized air gap. The dependences obtained experimentally from method 2 are

$$\begin{aligned}
\log \tau &= f(\log U), \\
U_{\theta}^{f} &= f\left(\frac{f}{\tau}\right).
\end{aligned} \tag{2}$$

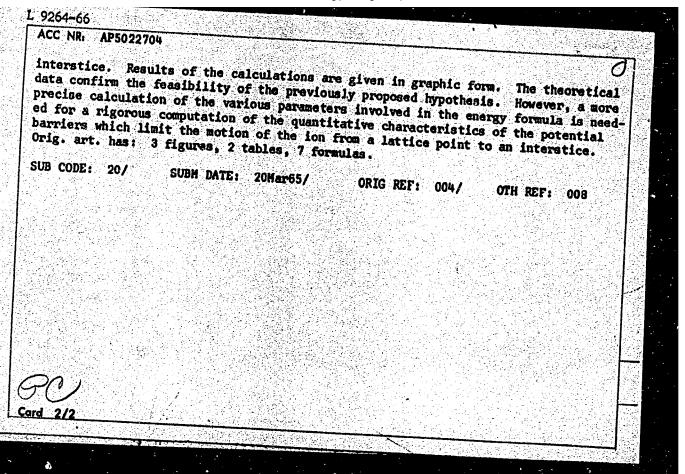
where  $U_0$  is the short-duration penetrating voltage before aging,  $\tau$  is lifetime, and also the distributions of the specimens of films by the magnitude of  $U_t$  and  $\tau$  agree with the calculation curves, which were constructed with the use of the distribution according to  $U_0$  on the basis of the ratios derived from Eq. (1). This correspondence serves as indirect evidence that the

Card 2/3

. ,	kinetics of aging of polymer films in indirect application of metal electrodes is the the gap between glass plates. [Translation of abstract] 5 illustrations and bibliograms. [Leningrad Polytechnical Institute in the contract of the contr	
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TANKENI (m)/T/ENP(t)/ENP(b)/EWA(c) ACC NR: AP5022704 | I.P(c) JD/GG/WH : UR/0181/65/007/009/2678/2682 SOURCE CODE: AUTHOR: Koykov, S. N.; Rozova, N. 47155 44155 ORG: Leningrad Polytechnical Institute im, M. I. Kalinin (Leningradskiy politekh-TITLE: Calculating the energy of formation of a pair defect in the rutile crystal SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2678-2682 21,44155 TOPIC TAGS: crystal theory, crystal lattice defect, titanium dioxide, potential well, theoretic physics ABSTRACT: A hypothesis previously proposed by Koykov et al (S. N. Koykov, V. Ya. Kumin, A. N. Tsikin, FTT, 3, 651, 1961) for the mechanism of aging in rutile crystals assumes that there is an increase in the concentration of pair defects consisting of a vacant site and an ion which is shifted by the electric field to one of the adjacent interstices. The authors of the present article attempt to determine the extent to which the previously proposed model accurately describes the shape of the potential well. This evaluation is made by calculating the energy of formation of a pair defect in an ideal rutile crystal lattice. A formula is derived for calculating the energy necessary for moving a titanium ion from a lattice site to an adjacent 1/2 Card

# "APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000825720



TIMOFEYEVA, A.G., MADAYEVA, O.S., GUSAKOVA, Ye.G., KOYLKINA, N.F., MEN'SHOVA, N.I., NOVIKOVA, V.M.

Hydroxylation of progesterone to 11 & -oxyprogesterone by the use of Rhizopus nigricans [with summary in English]. Izv.AN SSSR. Ser.biol. no.6:712-718 N-D 158 (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze, Moskva.

(PROGESTERONE)

(PROGESTERONE)
(HYDROXYLATION)
(FUNGI)

GAMEERG, R.M., gornyy inzh.; KOYLOV, V.G., gornyy inzh.

Filling with rocks from hydraulic overburden stripping in the Zyryanovsk Mine. Gor.zhur. no.5:25-27 My '62. (MIRA 16:1)

1. Zyryanovskiy svintsovyy kombinat.
(Zyryanovsk District—Mine filling)
(Hydraulic mining)

POSIN, M.Yo. (Leningrad) KOMEV B.A. (Laningrad); OSIPOVA, Ne.N. (Leningrad)

Production of water-soluble nitrogen-phosphorus-potassium fertilizers according to the cyclic flow sheet developed by the Loningrad Technological Institute and the State Institute of the Mitrogen Industry. Trudy LIEI no.378156-157 161. (MIRA 1894)

AP5028512	SOUR	CE CODE: UR/0286/65	/000/020/0097/0097	
AUTHORS: Vaynahteyn-Ko	ovalevskiy, G. Ye.; Goro	khov, V. M.; Koynas	h. P. I., Lanin.	
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KOYNASH, V.A.

Simple and reliable devices. Zhivotnovodstvo 24 no.5:71-73 My 162. (MIRA 16:10)

1. Starshiy zootekhnik Poltavskoy gosudarstvennoy plemenoy stantsii.

KOYNOV, Georgi M., dotsent (Bolgariya)

Rye breeding in Bulgaria. Agrobiologiia no.1:80-84 Ja-F '62. (MIRA 15:3)

1. Vysshiy sel'skokhozyaystvennyy institut imeni V.Kolarova, Plovdiv.

(Bulgaria -- Rye breeding)

Geography of mountain pastures in Stanislav Province. Dop.
ta pov.L'viv.un. no.3 pt.2:8-10 '52. (MLRA 9:11)

(Stanislav Province--Pastures and meadows)

EOYNOV, M.M. starshiy prepodavatel'.

Division of Stanislav Province into physical geographical regions. Dop.ta pov.L'viv.un. no.4, pt.2:14-16 '53. (MLRA 9:11)

(Stanislav Province--Physical geography)

# ROYNOV, M.M. Physico-geographical division of Stanislav Province into regions. Nauk.gap.L'viv.un. 28:60-83 '54. (MLRA 9:10) (Stanislav Province--Physical geography)

The concept of "Chernogora" as a physicogeographical region.  Dop. ta pov. L'viv. un. no. 5 pt.2:60-63 '55. (MLRA 9:10)						
(Carpathian MountainsPhysical geography)						

# "APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000825720

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